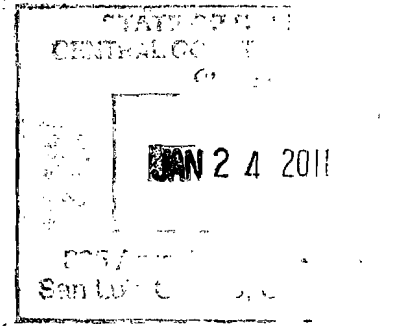




UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Tom Howard
Executive Director
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100



Dear Mr. Howard:

Thank you for submitting the Basin Plan Amendment containing the Total Maximum Daily Loads (TMDLs) for pathogen impairments in the Aptos Creek watershed, including Aptos Creek, Valencia Creek, and Trout Gulch. Based on EPA's review of the TMDL submittal under Clean Water Act (CWA) Section 303(d), I have concluded the TMDLs adequately address the pollutants of concern and, upon implementation, will result in attainment of the applicable water quality standards for the Aptos Creek watershed. The required elements are adequately addressed; therefore, the TMDLs are hereby approved pursuant to CWA Section 303(d)(2).

EPA received the State Water Resources Control Board's complete TMDL package for approval on November 8, 2010. The TMDLs include waste load and load allocations as needed, take into consideration seasonal variations and critical conditions, and provide an adequate margin of safety. The State provided adequate opportunities for public review and comment on the TMDLs, and demonstrated how public comments were considered in the final TMDLs.

The TMDL submittal also contains a detailed plan for implementing the TMDLs. Current federal regulations do not define TMDLs as containing implementation plans; therefore, EPA is not taking action on the implementation plan provided with this TMDL. However, EPA concurs with the State's proposed implementation approaches.

If you have any questions concerning this approval, please call me at (415) 972-3572 or Janet Parrish at (415) 972-3456.

Sincerely yours,

Alexis Strauss 20 January 2011
Alexis Strauss
Director, Water Division

Enclosure

cc: Roger Briggs, Executive Officer, Central Coast RWQCB

TMDL Review Checklist

State: California, Central Coast Region

Water Bodies: Aptos Creek, Valencia Creek, and Trout Gulch

Pollutant(s): Pathogens

Date of Letter Requesting EPA Approval: October 19, 2010

Date EPA Received Complete Submission: November 8, 2010

EPA Reviewer: Janet Parrish

1. Submittal Letter: *Letter indicates final TMDL(s) for specific water(s)/pollutant(s) were adopted by the State and submitted to EPA for approval under 303(d).*

The State Water Resources Control Board's (State Board) submittal letter, dated October 19, 2010 from Elizabeth Haven to Alexis Strauss, describes an amendment to the Central Coast Regional Water Quality Control Board's (Regional Board) Basin Plan to: (1) add the Aptos Creek watershed to the human fecal material discharge prohibition and the domestic animal waste discharge prohibition; and (2) adopt TMDLs for pathogens in Aptos Creek, Valencia Creek, and Trout Gulch in the Aptos Creek watershed.

The Basin Plan Amendment was adopted by the Regional Board on May 8, 2009. The Amendment was approved by the State Board on August 3, 2010. On November 8, 2010, EPA received a copy of California's OAL approval document OAL File No. 2010-0921-03 S, dated October 29, 2010. EPA considers the State's submittal complete as of the date of receipt of the OAL approval document, November 8, 2010.

The submittal letter requests EPA to approve the TMDLs under Clean Water Act (CWA) section 303(d)(2). This 303(d)(2) approval applies only to the pathogens TMDLs. EPA is taking no action regarding the two discharge prohibitions included in the Regional Board Resolution, which are permitted under State law.

The States submittal package includes: (1) the Aptos Creek Watershed Pathogens Total Maximum Daily Load (TMDL) Final Project Report (Project Report) dated May 8, 2009; (2) the Proposed Basin Plan Amendment and Final Regional Board Resolution No. R3-2009-0025, dated May 8, 2009, adopting the Proposed Basin Plan Amendment; (3) State Board Resolution No. 2010-0038, dated August 3, 2010, approving the Regional Board Basin Plan Amendment; and (4) OAL approval document, File No. 2010-0921-03 S, dated October 29, 2010.

The TMDLs were originally adopted on March 21, 2008, under Regional Board Resolution No. R3-2008-0003. These were forwarded to the State Board for adoption. On November 6, 2008, the Central Coast Regional Board's Executive Officer withdrew the TMDLs for Pathogens in

Aptos Creek, Valencia Creek, and Trout Gulch from consideration for adoption by the State Board, due to State Board staff recommendation to clarify language in the TMDLs and corresponding amendments before submittal to the State Board for approval. The clarifications included changing the allocations to human sources to zero, simplifying the prohibition language, and changing some classifications from nonpoint to point sources. The submitted TMDLs include the recommended clarifications, and were adopted, following an additional public comment period on May 8, 2009, under Regional Board Resolution No. R3-2009-0025.

2. TMDLs Included: *The submittal clearly identifies the water segments and pollutants or stressors for which TMDLs were developed. The submittal should distinguish TMDLs adopted for listed water/pollutant combinations from TMDLs adopted for water/pollutant combinations not identified on the current Section 303(d) list.*

The State submittal includes TMDLs for pathogens in the Aptos Creek Watershed, including Aptos Creek, Valencia Creek, and Trout Gulch. Aptos Creek and Valencia Creek are listed as impaired for pathogens on California's 2006 303(d) list. They were originally listed in 1994. TMDLs were also included for the following new impairments identified as part of the TMDL analysis: Trout Gulch, which is not included on California's 2006 303(d) List (Project Report, p. 1).

EPA concurs with the State's finding of new impairments for the additional waterbody, and concludes that it is appropriate for the State to include TMDLs for all these waters within the Aptos Creek watershed.

3. Water Quality Standards Attainment: *TMDL(s) and associated allocations are set at levels adequate to result in attainment of applicable standards.*

The TMDL submittal addresses the applicable water contact recreation (REC-1) beneficial use in the Aptos Creek watershed. Applicable water quality objectives for REC-1 for pathogens are as follows: fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean (geomean) of 200 MPN/100 ml, nor shall more than ten percent of single samples collected during any 30-day period exceed 400 MPN/100 ml. The uses and objectives are contained in the current Regional Board Basin Plan (Project Report, p. 4).

EPA concurs with the State's analysis, and concludes that the numeric targets, TMDLs and associated allocations are set at levels necessary to attain applicable water quality standards.

4. Numeric Target(s): *Submittal describes applicable water quality standards, including beneficial uses, applicable numeric and/or narrative criteria. Numeric water quality target(s) for TMDL identified, and adequate basis for target(s) as interpretation of water quality standards is provided.*

The TMDL numeric targets are set at the water quality objectives for water contact recreation (see values above). (Project Report, p. 4, p. 32).

EPA concludes the State's use of these numeric targets in the TMDL analyses to be reasonable and appropriate, and finds there is an adequate basis for the targets.

5. Source Analysis: *Point, non-point, and background sources of pollutants of concern are described, including the magnitude and location of sources. Submittal demonstrates all sources have been considered.*

The source analysis was based on existing water quality data, wastewater spill data, microbial source data, land use, flow estimates, ribotyping analysis, and discussions with staff at various public health agencies in Santa Cruz County (Project Report, pp. 21-30). Ribotyping analysis indicated a significant contribution of fecal indicator bacteria from natural sources such as birds, rodents and other wildlife. A portion of fecal indicator bacteria loading from natural sources was determined to be uncontrollable.

Controllable, non-natural sources of concern in the Aptos Creek watershed include (in relative order of contribution): storm drain discharges to MS4s; pet waste in areas that do not drain to MS4s; County of Santa Cruz sanitary sewer collection system spills and leaks; private sewer laterals; and farm animals and livestock discharges (Project Report, p. 28).

There are no waste water treatment plants (WWTPs) in the watershed, but there is a collection system that conveys wastewater from Santa Cruz County within the watershed's boundaries to the City of Santa Cruz's WWTP. The Santa Cruz County Sanitation District's (SCCSD's) Waste Discharge Requirements (WDR No. R3-2005-0043) addresses the County's collection system. Areas of the Aptos Creek watershed not connected to the SCCSD collection system have on-site (septic) wastewater disposal systems. Homeless persons and encampments were not suspected to contribute to the pathogens in the Aptos Creek watershed. Likewise, staff did not consider on-site wastewater disposal systems to be a contributing source, as the ribotyping analysis did not indicate any human contribution at any of the source tracking sites, except for Aptos Creek at the mouth. Staff concluded that if the pathogen contribution from these systems were contributing to the impairment, the ribotyping data would likely have shown some human contribution at any of the four upstream sites (Project Report, p. 28).

EPA finds the State's source analysis to be complete, reasonable and appropriate.

6. Linkage Analysis: *Submittal describes relationship between numeric target(s) and identified pollutant sources.*

The loading capacity is equal to the numeric target for pathogens, which is also set equal to the water quality standard for pathogen indicator organisms (Project Report, p. 33).

Since water contact recreation is the applicable beneficial use for these TMDLs, setting the loading capacity to achieve this use is appropriate, and will ensure that other, less stringent uses (such as REC-2) are attained. The submittal sufficiently describes the relationship between numeric targets, pollutant sources, and loading capacities.

EPA finds the State's analysis reasonable and appropriate.

7. TMDL and Allocations: *Submittal identifies the total allowable load, waste load allocations for all point sources and load allocations for non-point sources. The TMDL must be set equal to or less than the loading capacity. If no point sources are present, waste load allocations are zero. If no non-point sources are present, load allocations are zero. TMDLs and allocations should be expressed in terms of daily time steps. If the TMDL and/or allocations are also expressed in terms other than mass loads per day, the submittal explains why it is reasonable and appropriate to express the TMDL in those terms.*

TMDLs: The TMDLs are set equal to the loading capacity, which is the numeric target and water quality objective for fecal coliform concentration, to meet the water contact recreation (REC-1) use. The TMDLs are set at a fecal coliform concentration geomean of ≤ 200 MPN/100 ml (minimum of 5 samples over a 30 day period), and 90th percentile ≤ 400 MPN/100 ml (over any 30 day period). For all sources containing human fecal material, the TMDLs are set at pathogens concentration of 0 MPN per 100 ml (Project Report, p. 33).

EPA concurs with the State's analysis and concludes the TMDLs are set at levels necessary to attain applicable water quality standards.

Waste Load and Load Allocations

All waste load allocations and load allocations are concentration-based and are set equal to or less than the loading capacity, which is the fecal coliform water quality objective for water contact recreation. TMDLs are established for all waters of Aptos Creek, Aptos Creek from the mouth and upstream to the bridge at Porter Street, and all reaches of Noble Gulch (Project Report, p. 33-36).

For all sources not containing human fecal material, waste load allocations and load allocations are set at a geomean of ≤ 200 MPN/100 ml (minimum of 5 samples over a 30 day period), and 90th percentile ≤ 400 MPN/100 ml (over any 30 day period). In the submittal, this is also referred to as "Allocation 1." For all sources containing human fecal material, the waste load and load allocations are: fecal coliform concentration shall not exceed zero MPN per 100 ml. This is referred to as "Allocation 2."

Waste Load Allocation 1 applies to discharges to MS4s, required to be covered by an NPDES permit, as well as Storm Water General Permit NPDES No. CAS000004 for Santa Cruz County (Project Report, p. 35).

Waste load allocations of zero ("Allocation 2" in the Project Report) are set for the Santa Cruz County Sanitation District and for sanitary sewer collection and treatment systems (WDR Order R3-2003-0043).

Load allocations for (nonpoint source) runoff from owners and operators of land used for/containing pets (pet waste not draining to MS4s), for owners and operators of land used for/containing farm animals and livestock (farm animals and domestic livestock discharges), and discharges from natural sources, are set at Allocation 1.

Should all control measures be in place, pathogen indicator organism concentrations remain high, and allocations are not met, staff may investigate options, such as genetic studies to isolate sources, or other appropriate monitoring, to determine if the high level of indicator organisms is due to uncontrollable sources. Responsible parties may demonstrate that controllable sources of pathogen indicator organisms are not contributing to exceedences of water quality objectives in receiving waters, and Regional Board staff may consider re-evaluating the numeric targets and allocations, including such options as a site-specific objective to be approved by the Regional Board (Project Report, pp. 35-36).

EPA concludes the TMDL analysis includes load allocations and waste load allocations that are consistent with the provisions of the CWA and federal regulations.

8. Margin of Safety (MOS): *Submittal describes explicit and/or implicit margin of safety for each pollutant.*

The State's submittal includes an implicit margin of safety "through the use of protective numeric targets, which are the water quality objectives" for the Aptos Creek watershed's REC-1 beneficial uses. The ability to distinguish controlled (man-made) versus natural sources is the main uncertainty in these TMDLs. Ribotyping is one of the best analytic methods currently available to determine the distinction between man-made versus natural sources. (Project Report, p. 36.)

EPA finds the State's analysis to be reasonable.

9. Seasonal Variations and Critical Conditions: *Submittal describes method for accounting for seasonal variations and critical conditions in the TMDL(s).*

The submittal states that monitoring data did not show significant seasonal variations, and critical conditions are related to uncertainties inherent in identifying the relative contributions of the identified sources. There are no definitive critical conditions. (Project Report, page 44)

EPA finds the State's analysis to be reasonable.

10. Public Participation: *Submittal documents provision of public notice and public comment opportunity; and explains how public comments were considered in the final TMDL(s).*

The Regional Board and State Board held several public workshops and hearings, beginning in 2005, and adequately responded to written and oral public comment.

The Regional Board held stakeholder meetings beginning on November 16, 2005 and June 26, 2006. On May 8, 2009, the Regional Board held its final public hearing on the TMDLs following a 45-day comment period, and considered all public comments and evidence in the record.

The State's submittal includes the State's Notice of Opportunity for Public Comment, dated June 8, 2010. There were no comments submitted for that action. The Regional Board's record

includes Notices of Opportunity for Public Comment, as well as Scientific Peer Review Comments, and staff responses to comments.

EPA finds the State provided sufficient opportunities for public comment and adequately responded to public comments.

11. Technical Analysis: *Submittal provides appropriate level of technical analysis supporting TMDL elements.*

The TMDL submittal provides an appropriate level of technical analysis supporting all TMDL elements.

12. Reasonable Assurances: *If waste load allocations are made less stringent based on the inclusion of load allocations that reflect non-point source reductions, submittal describes how there are reasonable assurances that necessary non-point source reductions will occur.*

N/A